

CLAIMS

1. - Dynamic current collector system for a set of toy vehicles which are disposed on a track comprising a guide groove, of the type that comprises electroconductive tracks (1), conectables to an electrical power supply, placed in both sides of said guide groove (2), and current collector elements (3) in electrical connection with at least an electrical traction motor of each vehicle and placed in a lower front part (4) of the vehicle, in both sides of a guide follower flange (5), taking place a dynamic electrical contact between said electroconductive tracks (1) and said current collector element (3) while the vehicle moves over the mentioned track (6) with said guide follower flange (5) in said guide groove (2), the electroconductive tracks (1) are placed throughout the inner laterals of the guide groove (2), **characterized** in that the current collector elements (3) are located in the outer lateral faces of said guide follower flange (5), and being a part of the mentioned guide follower flange.

2. - System, in accordance with claim 1, characterized in that the current collector elements (3) are made of a laminar material and are joined to said outer lateral faces of the guide follower flange (5) and the electroconductive tracks (1) are pushed by the force of elastic elements (7) towards a central zone of the guide groove (2) to assure a good contact with the current collector elements (3), which, when the vehicle crosses, make contact with the electroconductive tracks (1) separating them against said force of the mentioned elastic elements (7).

3. - System, in accordance with claim 2, characterized in that the electroconductive tracks (1) are made of a laminar material and have as contact zone a rim or an edge (1a) of a portion of said laminar material no parallel to the respective current collector elements (3).

4. - System, in accordance with claim 3, characterized in that said portion of laminar material no parallel to the current collector elements (3) is inclined downwards and towards the

centre of the guide groove (2), in favour of the entrance of the guide follower flange (5).

5. - System, in accordance with claim 3, characterized in that, in each guide groove (2) of a track (6), the electroconductive tracks (1) are made of a plurality of adjacent separated sections, electrically connected to each other by flexible connection elements (8).

6. - System, in accordance with claim 5, characterized in that said track (6) comprises longitudinal cavities (9) in both sides of the guide groove (2) and parallel to the same one, and said of electroconductive tracks (1) have a folded portion (1b) introduced in said longitudinal cavities (9).

7. - System, in accordance with claim 6, characterized in that the longitudinal cavities (9) define a narrowed bottom in which is leaned lower edges of the electroconductive tracks (1) so that these can pivot on these lower edges, being each electroconductive track (1) pushed by at least one of these elastic elements (7) placed throughout the longitudinal cavities (9).

8. - System, in accordance with claim 7, characterized in that the track (6) is made of a dielectric material and integrally defines the guide groove (2), the longitudinal cavities (9) and a tread surface (6a) for the vehicles.

9. - System, in accordance with claim 8, characterized in that the elastic elements (7) have the form of elastic tongue-pieces (7), integrals of the track element (6).

10. - System, in accordance with claim 8, characterized in that the elastic elements (7) have the form of elastic tongue-pieces (7), non-integrals of the track element (6).

11. - System, in accordance with claim 7, characterized in that the elastic elements (7) have the form of sheets of a electroconductive material and are inserted between a back wall of the longitudinal cavities (9) and the electroconductive tracks (1), comprising said sheets in their ends elastic forks (13) leaned against the back parts of two different adjacent

electroconductive tracks (1), reason why act in addition like the mentioned flexible connection elements (8).

12. - System, in accordance with claim 5, characterized in that said flexible connection elements (8) are constituted by a bridge of flexible electroconductive material finished in their ends by terminals respectively connected to the ends of each one of the two different adjacent electroconductive tracks (1).

13. - System, in accordance with claim 1, characterized in that the guide follower flange (5) is integral of a rod (14) inserted in such a way that it can turn in a hole (16) of the lower front part (4) of the vehicle and the current collector elements (3) extend superiorly in connection terminals (15) to, or of contact with, connected conductive elements to the motor of the vehicle.

14. - System, in accordance with claim 1, characterized in that the depth of insertion of the guide follower flange (5) in the guide groove (2) is limited by the front wheels of the vehicle, which lean and roll on a tread surface (6a) of the track (6).

15. - System, in accordance with one of the claims 6 to 10, characterized in that the electroconductive track (1) are kept in the longitudinal cavities (9) and upperly covered by longitudinal covers (10), made of dielectric material, which are housed and fixed in recesses (11) foreseen in both sides of the guide groove (2) so that an upper surface of said longitudinal covers (10) is levelled off with a tread surface (6a) of the track element (6) and opposed edges of the longitudinal covers (10) define an opening for the guide groove (2).